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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,085	01/07/2004	James L. Fergason	ILIXP001	5412
26541	7590	04/26/2007		
Cindy S. Kaplan P.O. BOX 2448 SARATOGA, CA 95070			EXAMINER HASAN, MOHAMMED A	
			ART UNIT	PAPER NUMBER
			2873	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/753,085

Applicant(s)

FERGASON ET AL.

Examiner

Mohammed Hasan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 28-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-27 is/are rejected.
- 7) ☒ Claim(s) 5,6 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/19/05, 2/25/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application
- ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. Claims 28-37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/2/2007.
2. Applicant's election without traverse of claims 1-27 in the reply filed on 4/2/2007 is acknowledged.

Oath/Declaration

3. Oath and declaration filed on 9/17/2004 is accepted.

Information Disclosure Statement

4. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 4/19/2005 and 2/25/2004 have all been considered and made of record (note the attached copy of form PTO – 1449).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4,7-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shindo (36,237) in view of Torch (6,163,281).

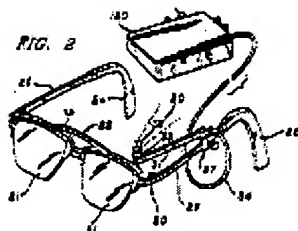
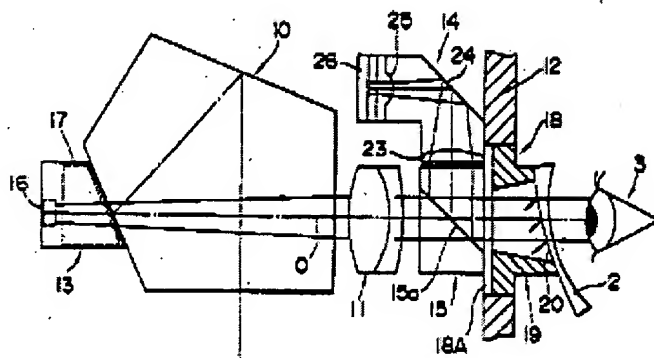
Regarding claim 1, Shindo discloses (refer to figure 1) a system for detecting eye closure through optical observation of the eye , the system comprising: a frame (12) configured to be worn on a user, a light source (16) , at least one eye piece (11) connected to the frame, the eye piece having a reflective surface configured for reflecting light emitted from the light source onto the eye (column 2, lines 10-20).

Shindo discloses all of the claimed limitations except a sensor connected to the frame and operable when positioned on the user to detect light reflected by the eye in a direction that is substantially parallel to the light on a retina of the eye detect that the eye is in an open position.

Torch discloses (refer to figure 1) a sensor 33 connected to the frame and parallel to the light on a retina of the eye that the eye is in an open position (column 6, lines 1-25).

It would have been obvious to one of ordinary skill in the art at the time invention was made to provide a sensor connected with the frame in to the Shindo eye observation system for the purpose emitter and sensor are a single solid state device such as a biosensor device as taught by Torch (column 3, lines 35-36).

FIG. 1



Regarding claim 2, Shindo discloses wherein the optical device further comprises a beamsplitter (15) configured for transmitting light onto the reflective surface (column 2, line 55).

Regarding claim 3, Torch discloses where the sensor (33) is a photodiode (column 9, lines 15-25).

Regarding claim 4, Shindo discloses wherein the light source (16) is an infrared light emitting diode (column 2, lines 20-22).

Regarding claim 7, Shindo discloses wherein the optical device and reflecting surface are arranged such that an eye of the user acts as a retro-reflector upon receiving light reflected from the reflective surface (as shown in figure 1).

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Regarding claim 8, Shindo discloses wherein the frame (12) is an eyeglass frame (as shown in figure 1).

Regarding claim 9, Torch discloses wherein the sensor (33) and the light source are mounted on a side member of the frame (as shown in figure 2).

Regarding claim 10, Shindo discloses where the frame (12) is a helmet configured to be worn by the user and the eyepiece comprises a visor of the helmet (as shown in figure 1).

Regarding claim 11, Torch discloses wherein the sensor (33) is positioned on that frame such that it is substantially unobtrusive to the user's field of view when the frame is mounted on the user (as shown in figure 2).

Regarding claim 12, Torch discloses further comprising a processor (130) operable to convert an output signal received from the sensor into a signal identifying whether the eye is in an open or closed position (column 7, line 9).

Regarding claim 13, Torch discloses further comprising an alarm (150) configured for activation upon a predetermined eyelid movement condition (column 7, lines 30-35).

Regarding claim 14, Shindo discloses wherein the eyelid movement condition is duration of eyelid closure (as shown in figure 1).

Regarding claim 15, Shindo wherein the reflective surface is concave (as shown in figure 1).

Regarding claim 16, Shindo discloses (refer to figure 1) a system for detecting eye closure through optical observation of the eye, the system comprising: a frame (12)

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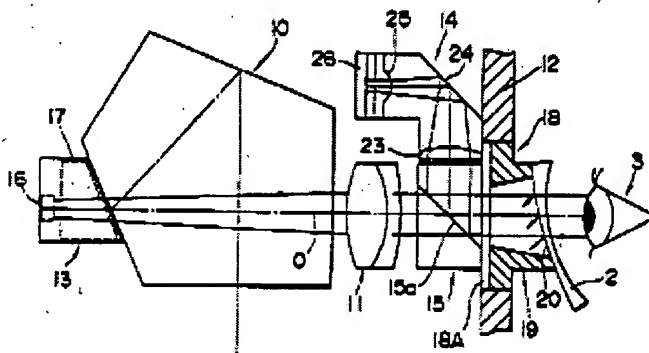
configured to be worn on a user, a light source (16), at least one eye piece (11) connected to the frame, the eye piece having a reflective surface configured for reflecting light emitted from the light source onto the eye (column 2, lines 10-20).

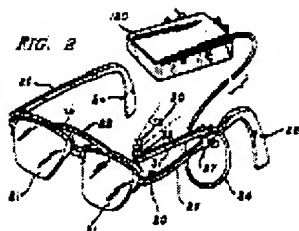
Shindo discloses all of the claimed limitations except a sensor connected to the frame and operable when positioned on the user to detect light reflected by the eye in a direction that is substantially parallel to the light on a retina of the eye detect that the eye is in an open position.

Torch discloses (refer to figure 1) a sensor 33 connected to the frame and parallel to the light on a retina of the eye that the eye is in an open position (column 6, lines 1-25).

It would have been obvious to one of ordinary skill in the art at the time invention was made to provide a sensor connected with the frame in to the Shindo eye observation system for the purpose emitter and sensor are a single solid state device such as a biosensor device as taught by Torch (column 3, lines 35-36).

FIG. 1





Regarding claim 17, Shindo discloses wherein the optical device further comprises a beam splitter (15) configured for transmitting light onto mirror surface (column 2, line 55).

Regarding claim 18, Shindo discloses wherein the optical device and reflecting surface are arranged such that an eye of the user acts as a retro-reflector upon receiving light reflected from the reflective surface (as shown in figure 1).

Regarding claim 19, Shindo discloses wherein the light source (16) is an infrared light emitting diode (column 2, lines 20-22).

Regarding claim 20, Shindo discloses wherein the frame (12) is an eyeglass frame (as shown in figure 1).

Regarding claim 21, Torch discloses wherein the sensor (33) and the light source are mounted on a side member of the frame (as shown in figure 2).

Regarding claim 22, Shindo discloses where the frame (12) is a helmet configured to be worn by the user and the eyepiece comprises a visor (as shown in figure 1).

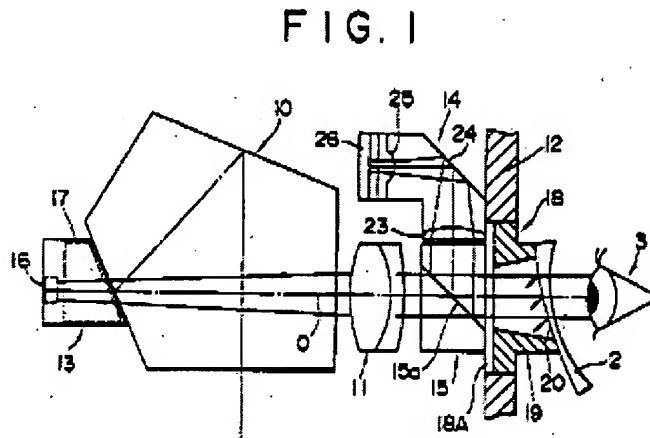
Regarding claim 23, Torch discloses further comprising a processor (130) operable to convert an output signal received from the sensor into a signal identifying whether the eye is in an open or closed position (column 7, line 9).

Regarding claim 24, Shindo discloses (refer to figure 1) a system for detecting eye closure through optical observation of the eye, the system comprising: a frame (12) configured to be worn on a user, a light source (16), at least one eye piece (11) connected to the frame, the eye piece having a reflective surface configured for reflecting light emitted from the light source onto the eye (column 2, lines 10-20).

Shindo discloses all of the claimed limitations except a camera mounted on the frame for monitoring movement of the eye when the frame is mounted on the user to sense direction of gaze of the users eye.

Torch discloses (refer to figure 1) a camera mounted on the frame for monitoring movement of the eye when the frame is mounted on the user to sense direction of gaze of the users eye (column 2, lines 25-30).

It would have been obvious to one of ordinary skill in the art at the time invention was made to provide a camera mounted on the frame in to the Shindo eye observation system for the purpose emitter and purposeful-voluntary movement of eye as taught by Torch (column 2, lines 40-45).



Regarding claim 25, Torch discloses wherein the camera comprises a CCD (column 2, lines 25-30).

Regarding claim 26, Shindo discloses wherein the light source (16) is an infrared light emitting diode (column 2, lines 20-22).

Regarding claim 27, Shindo discloses wherein the optical device and reflecting surface are arranged such that an eye of the user acts as a retro-reflector upon receiving light reflected from the reflective surface (as shown in figure 1).

Allowable Subject Matter

6. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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7. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to show wherein the reflective surface is formed by a coating on the eye piece and the coating forms on the mirror surface.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suda et al (5,182,443) discloses an optical apparatus having visual axis detector and determining whether eyeglass are worn.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammed Hasan whose telephone number is (571) 272-2331. The examiner can normally be reached on M-TH, 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky L Mack can be reached on (571) 272- 2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MH
April 23, 2007

M. Hasan
Mohammed Hasan
Examiner, AU-2873